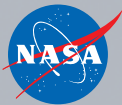


Earth Science Data for Global Change Research



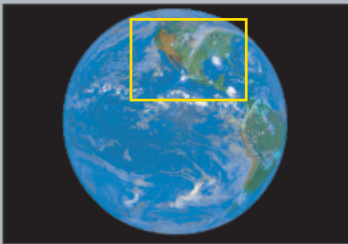
EOSDIS DAACs

For information on data and services:
<http://eos.nasa.gov/daac>



To search and order data:
<http://eos.nasa.gov/imswelcome>

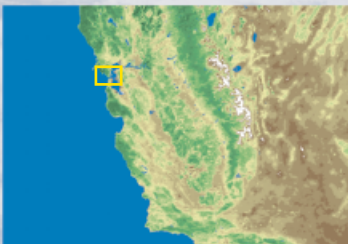
For the directory of Earth science data sets:
<http://gcmd.nasa.gov>



Data Resolution = 24 km
GOES 8/25/92



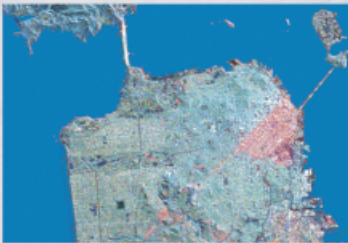
Data Resolution = 8 km
AVHRR 7/1-31/88



Data Resolution = 1.1 km
AVHRR 7/1-10/95



Data Resolution = 80 m
Landsat MSS 8/4/92



Data Resolution = 25 m
SIR-C 10/3/94

This series of pictures shows data from Earth sensors of varying resolution. As resolution increases, more detail but less area is seen. You can demonstrate this effect by looking through a tube at a poster on both a nearby wall and a faraway wall. Looking at the nearby wall, you may be able to read words but see only a small part of the poster. On the faraway wall, you may be able to see the whole poster, but the words may be too small to read. Many Earth sensors work this way. High-orbiting or large sensors show large areas with few details. Low-orbiting or small sensors show small areas with more detail.

The first (top) picture is of the entire globe. It has an approximate resolution of 24 km (each picture element is 24 km across) and shows large features such as continents. The second picture (resolution of 8 km) shows continental-level details of North America such as the Great Lakes. The third picture (1.1 km) shows regional landforms such as the San Francisco Bay area coastline. The fourth picture (80 m) shows the San Francisco Bay area with sufficient detail for human constructs such as urban areas to be visible. Finally, the bottom image (25 m) shows the metropolitan area of San Francisco and allows roads, bridges, and ships to be identified. These different resolutions are used for different studies. For example, weather studies use global and continental data. Studies of urban growth use the higher resolution data showing cities. (Note that the original data have been scaled to represent the stated relative resolutions.)

DATA SOURCES

GOES = Geostationary Operational Environmental Satellite
AVHRR = Advanced Very High Resolution Radiometer
MSS = Multispectral Scanner
SIR-C = Spaceborne Imaging Radar-C

EOSDIS DAACs

NASA's Earth Observing System Data and Information System (EOSDIS) Distributed Active Archive Centers (DAACs) and other cooperating data centers provide a complete suite of data products and services to support users of global change data. The DAACs and their scientific areas are listed below. To contact any DAAC, access the Web at <http://eos.nasa.gov/daac>.

ASF DAAC – Alaska Synthetic Aperture Radar (SAR)
Facility
SAR Products and Polar Processes

EDC DAAC – Earth Resources Observation Systems
(EROS) Data Center
Land Processes

GSFC DAAC – Goddard Space Flight Center
Upper Atmosphere, Atmospheric Dynamics, Global
Precipitation, Global Biosphere

JPL DAAC – Jet Propulsion Laboratory
Physical Oceanography

LaRC DAAC – Langley Research Center
Radiation Budget, Clouds, Aerosols,
Tropospheric Chemistry

NSIDC DAAC – National Snow and Ice Data Center
Snow and Ice, Cryosphere and Climate

ORNL DAAC – Oak Ridge National Laboratory
Biogeochemical Dynamics

SEDAC – Socioeconomic Data and Applications Center
Human Interactions in the Environment